MINERAL RESOURCES OF THE YUKON TERRITORY

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Geologically the Yukon consists largely of the northward extension of the Cordilleras and their flanks. It thus forms a part of one of the two great metal-bearing regions of the North American continent, the other being the Precambrian Shield. Its central feature is the great Yukon Plateau, with smaller basins about the Liard River to the southeast and about the Porcupine River to the north. Separating and rimming these plateaus, and erupting into the relatively even surface of the Yukon Plateau, are mountains. Included among the mountains of the territory are the Coast, Selwyn, St. Elias and other ranges. It is the view of the Geological Survey of Canada that the Yukon's varied geology holds out promise of great mineral resources of wide range.

The Geological Survey of Canada has now surveyed and prepared geological maps for about one-third of the Yukon. Much of this mapping will have to be redone as it is either exploratory or not up to modern requirements. Beginning about 1943 its tempo was quickened, and the objective now is to complete 4-mile mapping, to carry on special studies of interesting areas, and to study specific problems. Ahead lies the prospect that surveys by helicopter will hasten enormously the mapping process, as they have done in large areas of the Northwest Territories since 1952.

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Until the second decade of this century it was the search for placer gold that drew the prospector; to other minerals he paid but scant attention. Upon the discovery, however, of high silver values in the lead-zinc veins of the Mayo district in central Yukon, a wave of prospecting arose directed toward the discovery of high-grade deposits. Nevertheless, it was not until after the Second World War that general prospecting with adequate capital developed. In recent years the Yukon's metals and other minerals have attracted the attention of some of the largest and most progressive companies in the Canadian mining industry. That this is so affords a notable indication of the view that responsible opinion takes of the Yukon's mining potential. In the location and assessment of the territory's wealth a large and growing contribution has been made by modern scientific methods, such as the use of the airborne magnetometer. This role of science may be expected to become rapidly more important.

The Yukon is still relatively unprospected. Already, however, enough is known to suggest that it may be the richest in minerals of the entire Cordilleran region. Lying in this same geological region, the province of British Columbia now accounts for one-sixth by value of Canadian metals production, including four-fifths of our lead and two-fifths of our zinc. Even now more than twenty-five different minerals have been discovered in the Yukon, and of these ten have been produced - gold, silver, lead, zinc, cadmium, copper, coal, tungsten, platinum and antimony. While the current search for minerals is ranging over much of the territory,

it is concentrated particularly in the Pelly and St. Elias regions, which are expecially promising geologically for base metals. The 30,000 square miles of the Pelly region, which stretches 500 miles from the Alaska Highway in the southeast to beyond Mayo in the north, look to be rich in lead-zinc-silver, of which several deposits have been proved and many unproved discoveries have been made throughout its area. In the St. Elias region it is copper and nickel that appear as the most likely prospects, although there are also coal and at least one large deposit of gypsum. That these areas are receiving the most attention arises in part from the fact that, lying within a radius of 300 miles of Whitehorse, they are relatively accessible by the Alaska Highway and other transportation routes. Elsewhere in the Yukon the Porcupine River basin, as yet little explored, appears likely to have oil as its chief resource, with perhaps some coal. The Liard region offers possibilities for these same two minerals.

Although the inception of mining can be traced at least as far back as the 1880's, it was the famous gold strike of 1896 on a tributary of the Klondike River that first established mining as an important constituent of the Yukon economy. After experiencing a sharp decline in the value of its production in the early decades of this century, this industry at the outbreak of the Second World War was producing metals, chiefly gold and silver, worth $5 millions annually. In terms of value it was then outranking fur trapping by seventeen to one. The war years saw mining fall off sharply.

Since 1946, however, when its output, almost entirely of gold, was valued at $1.7 millions, the industry has undergone an uninterrupted expansion, its production increasing nine-fold in value to $16.6 millions in 1954.

It was Klondike gold with which this industry began. Between 1897 and 1904, inclusive, more than 100 million dollars worth was recovered from the placers of Klondike creeks, the greater part of it by primitive hand methods. This placer gold, once the preserve of individual prospectors, has more recently been recovered principally by methods requiring the use of enormous dredges and other heavy equipment. In late years gold production, chiefly from the placer creeks in the Dawson area, has ranged in value from $2.1 to $3.6 millions. The principal company engaged in these operations, the Yukon Consolidated Gold Corporation, has typically accounted for two-thirds of the total.

For many years the leading metal, gold has more recently given place to both base metals and silver. In 1939 it accounted for nearly two-thirds of the territory's mineral production, but in 1954 the corresponding proportion was only 17 per cent. These figures reflect the growing importance of the Mayo district as a source of silver, lead and zinc. Begun in 1913, mining in this area experienced setbacks in its early years. In 1946, United Keno Hills Mines Limited was incorporated to acquire and work available holdings, and commenced operation in December of that year. It is this company which is producing virtually all the silver, lead and zinc now coming from the Mayo district. The expansion in its

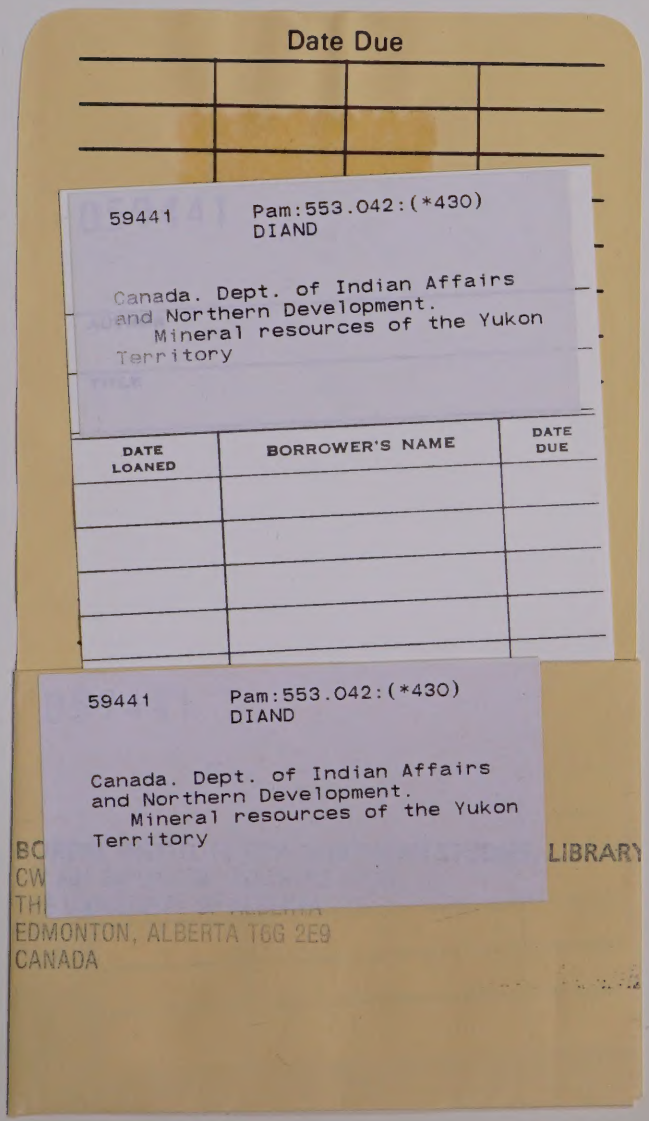
operations is measured by the fact that its production, only $425,000 in 1947, approached $13.6 millions in 1954, including $5.8 millions of silver, $4.5 millions of lead, $2.8 millions of zinc, and some cadmium. In its earlier years it was dependent upon diesel power, but the company now obtains its requirements of power from a 3,000 horsepower hydro-electric plant on the Mayo River built by the Northwest Territories Power Commission, a Crown company. With interruptions, coal has been mined on a small scale at Carmacks for many years; annual output has recently varied from 3,000 to 16,000 tons.

VALUE OF MINERAL PRODUCTION IN THE YUKON TERRITORY

Showing Volume and Value of Principal Minerals, 1939-1954

Year	Total value of mineral production	Gold		Silver		Lead		Zinc	
	$000's	Ozs.	$000's	'000 Ozs.	$000's	'000Lbs	$000's	'000 Lbs.	$000's
1939	4,961	87,745	3,171	3,831	1,551	7,545	239	-	-
1940	4,118	80,458	3,098	2,259	864	4,656	157	-	-
1941	3,118	70,959	2,732	857	328	1,704	57	-	-
1942	3,454	83,246	3,205	482	203	1,322	44	-	-
1943	1,626	41,160	1,585	52	24	196	7	-	-
1944	939	23,818	917	32	14	106	5	-	-
1945	1,239	31,721	1,221	25	12	120	6	-	-
1946	1,694	45,286	1,664	31	26	52	4	-	-
1947	2,096	47,745	1,671	372	268	1,145	157	-	-
1948	4,266	60,614	2,121	1,719	1,289	4,599	830	-	-
1949	5,099	81,970	2,951	1,563	1,160	5,356	846	846	112
1950	9,036	93,339	3,552	3,203	2,588	12,886	1,862	5,507	862
1951	9,793	77,504	2,856	3,443	3,255	12,533	2,306	5,679	1,130
1952	11,386	78,519	2,691	4,029	3,365	18,369	2,974	11,070	1,933
1953	14,569	66,080	2,274	6,639	5,578	31,591	4,083	18,027	2,156
1954	16,589	82,808	2,801	6,992	5,822	33,766	4,501	23,646	2,833

Source: Dominion Bureau of Statistics



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